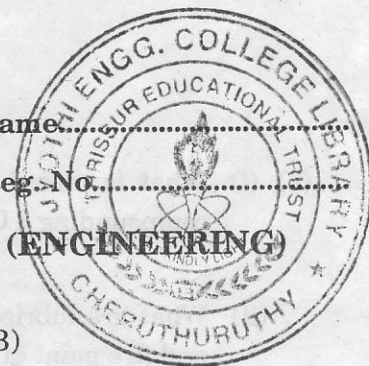


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(Pages 2)

Name.....

Reg. No.....



**COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING)
DEGREE EXAMINATION, MAY 2011**

EN 04-104 B—ENGINEERING CHEMISTRY (B)

(For CE/ME/PE/AM)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

- I. (a) What is meant by slaking of lime ? Why is it done ? How is it done ?
(b) What are boiler troubles ? How are they caused ? Suggest steps to minimize these troubles.
(c) Suggest a suitable mechanism to get living polymers.
(d) PVC is soft and flexible ; where as bakelite is hard and brittle. Give reason.
(e) Why should nickel plated steel articles be free from pores and pin holes ?
(f) What are the various sources of air pollution ? Suggest some methods of prevent is air pollution.
(g) Mention the merits and limitations of phase rule.
(h) What is an eutectic ? Can it be called a compound ? Why ?

(8 × 5 = 40 marks)

- II. (a) (i) What is Plaster of Paris ? How is it made ? (7 marks)
(ii) Discuss the manufacture of lime. (8 marks)

Or

- (b) (i) What is glass ? Discuss the manufacture of glass by pot furnace process. (7 marks)
(ii) Describe the demineralization process of softening of hard water. What are its advantages over zeolite process.

(8 marks)

- III. (a) (i) What is meant by functionality of molecules ? Give two examples each for bifunctional and trifunctional monomers and write down their structures.

(7 marks)

- (ii) Draw and explain the structure of graphite and molybdenum disulphide. How are they used as lubricants ?

(8 marks)

Or

Turn over

- (b) (i) What is meant by compounding of plastics ? What are the different constituents of compounding ? Give examples, explain their functions.

(8 marks)

- (ii) What are lubricants ? Discuss the mechanism of lubrication. Write a note on the flash and fire point of lubricants.

(7 marks)

- IV. (a) (i) Draw and discuss the phase diagram for lead-silver system.

(7 marks)

- (ii) What are solidus and liquidus curves ? Explain with example.

(8 marks)

Or

- (b) (i) What is the effect of pressure on the melting point ice ? Explain with phase diagram.

(7 marks)

- (ii) Draw a phase diagram of "Fe-C" system and state the important reactions taking place in the system.

(8 marks)

- V. (a) (i) Describe the impressed current and sacrificial anode methods of corrosion control.

(8 marks)

- (ii) Explain primary and secondary treatment process of sewage.

(7 marks)

Or

- (b) (i) How is ozone helpful in the existence of human life ? Give the importance and causes of depletion of ozone layer ?

(8 marks)

- (ii) What are the sources of carbon monoxide and sulphur dioxide pollutants in air ? How are they controlled ?

(7 marks)

[4 × 15 = 60 marks]